



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER OF PATENTS AND TRADEMARKS
Washington, D.C. 20231
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/007,328	11/08/2001	Wenhua W. Wang	60153-USA-DIV1	4149

7590 03/27/2003
FMC Corporation
Patent Administrator
1735 Market Street
Philadelphia, PA 19103

EXAMINER

LEVY, NEIL S

ART UNIT	PAPER NUMBER
----------	--------------

1616

DATE MAILED: 03/27/2003

3

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No. 10 002328	Applicant(s) WANG
Examiner Valley	Group Art Unit 1616 3

—The MAILING DATE of this communication appears on the cover sheet beneath the correspondence address—

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE **3** MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, such period shall, by default, expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).

Status

- 2/1/02**
- ☒ Responsive to communication(s) filed on _____
- ☐ This action is FINAL.
- ☐ Since this application is in condition for allowance except for formal matters, **prosecution as to the merits is closed** in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

- ☒ Claim(s) **1-31** is/are pending in the application.
- Of the above claim(s) _____ is/are withdrawn from consideration.
- ☐ Claim(s) _____ is/are allowed.
- ☒ Claim(s) **1-31** is/are rejected.
- ☐ Claim(s) _____ is/are objected to.
- ☐ Claim(s) _____ are subject to restriction or election requirement.

Application Papers

- ☐ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.
- ☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.
- ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.
- ☐ The specification is objected to by the Examiner.
- ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119 (a)-(d)

- ☒ Acknowledgment is made of a claim for ~~foreign~~ priority under 35 U.S.C. § 119(a)-(d) **Yes**
- ☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been received.
- ☐ received in Application No. (Series Code/Serial Number) _____
- ☐ received in this national stage application from the International Bureau (PCT Rule 1.7.2(a)).

*Certified copies not received: _____

Attachment(s)

- ☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). **2**
- ☒ Notice of Reference(s) Cited, PTO-892
- ☐ Notice of Draftsperson's Patent Drawing Review, PTO-948
- ☐ Interview Summary, PTO-413
- ☐ Notice of Informal Patent Application, PTO-152
- ☐ Other _____

Office Action Summary

Art Unit: 1616

Please indicate status @ p.1 of specification, as a divisional of 09/437,938.

The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

Claims 4, 18, 31 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Urea-is misspelled. Claim 31 depends on itself.

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claims 1-4, 7-9, 15-18, 21-23, 26, 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Curtis et al. 5462915.

See example 2 for claims 1-4, 7, 21, 23, 26, 28-30 clearly anticipated. Curing is shown at col.3, b, col.5, lines 3-21, with repetition of the micro encapsulation (col.2, lines 5-21) thereby utilizing the pre polymers as a second encapsulating agent. The methods/polymer are of the instant; so viscosity would be also.

Claims 1-4, 7-9, 15-18, 21-23, 26, 28-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Nastke et al. 5788991.

Here, too urea formaldehyde crosslinked microcapsules of pesticides are formed as instantly claimed, from prepolymers mixed with active agent (col.3, lines 43+) then

Art Unit: 1616

rejecting to form a second encapsulating coating (col.4, top col.2, lines 28-44). See example 1-no change in viscosity is required.

Claims 1-4, 7-11, 13, 14, 21-23, 26-30 are rejected under 35 U.S.C. 102(b) as being anticipated by Takahashi et al. 4557755.

Again urea formaldehyde prepolymer microencapsulation of pesticides is shown, with curing agents (example 1), heat, acid, formaldehyde, divalent cation are shown here and at col.7, lines 53-65, while size is at col.4, lines 15, viscosity remains unchanged.

Claims 1-~~2~~ 4-7, 21-23, 26, 28, 29 are rejected under 35 U.S.C. 102(b) as being anticipated by Scher-4140516.

Scher uses encapsulation of pesticides by suspending in water the pre polymers (instant claim 2) with polyisocyanate (instant claims 4,7) to form 5-40 micron microcapsules (example 1) example II uses hexamethylene diisocyanate (instant claim 5,6). Examples III, IV show lowering of PH. Viscosity need not increase.

Claims 1-3, 8, 10, 21-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Jensen et al. 3069370 or Lo-Ep-05517~~96~~

Jensen-Styrene-Maleic anhydride copolymers (col.3, lines 37-50) as ammonium salts (col.4 lines 48-60) or as multi cation-Magnesium chloride- are used to encapsulate lipid (col. 2, top) bioactives by mixing in water (col.5, 6) adjusting PH, with acetic acid and forms 0.5-200 micron size particles. Heating is shown at example 2, further curing is at col.6, lines 48-58-no viscosity change is seen.

Lo-see claim 12.

Art Unit: 1616

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Takahashi et al. 4557755 in view Curtis et al. 5462915 or Nastke et al.-5788991 and Scher-4140516.

Takahashi (above) provides urea polymer encapsulation, but not with isocyanates, and does not mention all forms of, crosslinking, acids and heating instantly claimed but, shows the instant in method steps as claimed. Curtis (above) also encapsulates, and uses a second encapsulating agent, with the instant process steps, but not all forms as instantly claimed. Nastke, also shows these forms, of 2 encapsulants, and scher (above) provides the instant examethylene diisocyanate and PH adjustment.

It would have been obvious to a person of ordinary skill in the art at the time the invention was made desiring to utilize a microcapsule for pesticide delivery, to use one of Takahashi, modified by Curtis or Nastke in order to control delivery and provide long lasting strength by multiple encapsulation, with specific components selected in accord with known practices of forming micro capsules. The particular poly urea micro capsule walls can be made from isocyanate, amide formaldehyde co-polymers.

All the critical elements of the instant are disclosed. The specific acid, pre polymer, and curing agent and heating, drying, adjusting steps are result effective parameters chosen to obtain the desired effects. It would be obvious to vary the form of

Art Unit: 1616

each ingredient to optimize the effect desired, depending upon the application method of interest, reduction of toxicity, cost minimization, enhanced, and prolonged, or synergistic effects desired.

Applicant has not provided any objective evidence of criticality, nonobvious or unexpected results that the administration of the particular ingredients' or method steps provides any greater or different level of prior art expectation as claimed, and the use of ingredient for the functionality for which they are known to be used is not basis for patentability.

No claim shows the first polymer as of claim 24, with the second as of claim 18.

This application contains claims directed to the following patentably distinct species of the claimed invention: species of microcapsule: one or multi walled.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-14, 21-31 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims

Art Unit: 1616

are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

This application contains claims directed to the following patentably distinct species of the claimed invention: species of polymer type: polyisocyanates, polyacrylamides, phenoxy resin, formaldehyde copolymers, anhydrides, polysaccharides, acrylics, naphthalene sulfonates.

Applicant is required under 35 U.S.C. 121 to elect a single disclosed species for prosecution on the merits to which the claims shall be restricted if no generic claim is finally held to be allowable. Currently, claims 1-4, 7-18, 21-31 are generic.

Applicant is advised that a reply to this requirement must include an identification of the species that is elected consonant with this requirement, and a listing of all claims readable thereon, including any claims subsequently added. An argument that a claim is allowable or that all claims are generic is considered nonresponsive unless accompanied by an election.

Upon the allowance of a generic claim, applicant will be entitled to consideration of claims to additional species which are written in dependent form or otherwise include

Art Unit: 1616

all the limitations of an allowed generic claim as provided by 37 CFR 1.141. If claims are added after the election, applicant must indicate which are readable upon the elected species. MPEP § 809.02(a).

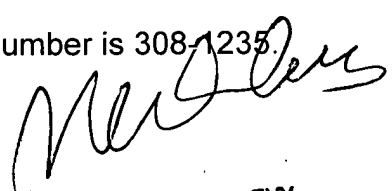
Should applicant traverse on the ground that the species are not patentably distinct, applicant should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. In either instance, if the examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. 103(a) of the other invention.

Applicant is advised that the reply to this requirement to be complete must include an election of the invention to be examined even though the requirement be traversed (37 CFR 1.143).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Neil Levy whose telephone number is 308-2412. The examiner can normally be reached on Tuesday- Friday 7:00 am to 5:30 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Jose Dees can be reached on 308-4628. The fax phone numbers for the organization where this application or proceeding is assigned are 308-4556 for regular communications and 872-9307 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 308-1235.



NEIL S. LEVY
PRIMARY EXAMINER